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PATENT

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Application No.:)
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Applicant(s): Günter Tremmel et al.)
)
Group Art Unit:)
)
Title: Covering Device For Covering)
Mounting Recesses In The Cover)
Strips Of A Vehicle Roof)
)
Attorney Docket: 47623-0003)

STATEMENT REGARDING SUBMISSION OF
SUBSTITUTE SPECIFICATION

Commissioner For Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

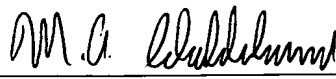
Dear Sir:

Applicant respectfully submits that the substitute specification attached hereto contains no new matter and therefore complies with 37 CFR § 1.125(b). In accordance with 37 CFR § 1.125(c), both a clean copy of the substitute specification and a copy showing the changes made to the original specification are attached hereto.

Respectfully submitted,

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Date: May 27, 2005

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COVERING DEVICE FOR COVERING MOUNTING RECESSES
IN THE COVER STRIPS OF A VEHICLE ROOF

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a National Stage of International Application No. PCT/EP03/12670, filed on November 13, 2003, which claims priority to German Patent Application No. 102 56 052.8, filed on November 30, 2002. The disclosures of the above applications are incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] The invention refers to a covering device for covering mounting recesses in the cover strips of a vehicle roof.

[0003] These mounting recesses are provided with cover strips at the locations where, for example, anchoring points for possible fastening of the support feet of roof luggage carriers are found in the roof channel beneath. As long as the locations are not being utilized and there is no need for the channels to be open, the recesses are, as a rule, closed by a corresponding cover, not only for the protection of the fastening site but also for visual reasons.

[0004] A generic covering device is known from DE 198 40 294 C2, in which the hinged cover filling the recess in the closed position has bearing journals, projecting in the strip longitudinal direction, which are shaped as a straight extension of the pivoting cover edge. This results in the bearing shells below the recess being located close to the edge of the recess, and the cover, when pivoted up, of necessity narrows the recess corresponding to its cover thickness.

[0005] The goal of the invention is to design the generic covering device so that the hinged cover does not hinder access to the recess when open.

SUMMARY OF THE INVENTION

[0006] This goal is attained according to the invention in that the bearing journals are shaped on the hinged cover via a U-shaped element, which is dimensioned such that the edge of the recess, when the hinged cover is in the open position, projects into the open space of the U-shaped element.

[0007] By means of this arrangement of the journal rotation point in the insertion part and the U-shaped formation of the hinged element, the roof strip recess can be almost completely opened. The roof hinge is then tilted back far enough from the recess, in the open position, that the feet of the roof luggage carrier can be easily guided to the fastening sites and be fastened there.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] Advantageous configurations of the invention are indicated in the subclaims and can be seen from the drawings, which show a preferred embodiment of the invention and which are described in more detail below. The figures show the following:

[0009] Figure 1, the cover device according to the invention, with pivoted-down hinged cover, in an oblique view;

[0010] Figure 2, a section of the cover strip of a vehicle roof with a covered recess, in a top view;

[0011] Figure 3, a cross section through the cover strip, with inserted covering device with a closed hinged cover, according to line III-III in Figure 2;

[0012] Figure 4, the same cross section through the cover strip according to line IV-IV in Figure 2;

[0013] Figure 5, the same cross section as in Figure 3, with an open hinged cover;

[0014] Figure 6, the hinged cover in an oblique top view; and

[0015] Figure 7, the corresponding insertion part in oblique top view.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] The covering device shown in the figures is used to close a mounting recess 4 in a cover strip 3 of a vehicle roof, as long as the fastening site for a roof luggage carrier, or other mechanism, found under the recess 4 is not needed.

[0017] This covering device consists of an insertion part 1, which can be positioned in the cover strip 3, and a hinged cover 2, which is supported so that it can pivot around an axis in the longitudinal direction of the cover strip 3 and covers the recess 4 in the closed position. The hinged cover 2 is connected to the insertion part 1 via a U-shaped element 5 with bearing journals 6 at each end. The bearing journals 6 are supported so they can pivot in bearing shells 7 shaped on the insertion part 1 when the hinged cover 2 is connected thereto. The U-shaped element 5 is shaped such that the edge 8 of the recess, when the hinged cover 2 is in the open position, projects into the open space 9 of the U-shaped element 5.

[0018] The bearing shells 7 embrace the bearing journals 6 over slightly more than half of their circumference. The bearing shells 7 elastically flex while the bearing journals 6 are being inserted and, after the bearing journals 6 have been completely inserted in the bearing shells 7, spring together again and thereby embrace the bearing journals 6 in a clamping manner. On the sides facing one another, the bearing shells 7 are provided with lateral stop walls 10 by means of which the bearing journals 6 are positioned, after insertion at opposing ends in the longitudinal direction of the bearing shells 7.

[0019] The bearing journals 6 have the so-called catch pin 11 on the ends directed away from one another. These catch pins 11 work together with the spring elements 12 shaped on the insertion part 1 in the open and closed positions of the hinged cover 2 so that this cover 2 is held securely in both end positions. In the present embodiment, these spring elements 12 are shaped like spring ribs 13 which are formed at one end on the insertion part

1. The other, elastically springy end, is guided in an arc pointing toward the catch pin 11, and shaped on its front side 14 with a catch edge 15 that catches in correspondingly shaped catch grooves 16 in the catch pin 11 in the aforementioned end positions of the hinged cover 2.

[0020] The insertion part 1, holding the hinged cover 2, consists of an elongated basic body made of hard elastic plastic, which is built in the following manner:

[0021] On both ends, there are bearing bodies 17 with two side walls 18 and 19 and a bottom plate 20 and a front wall 21. These bearing bodies 17 are connected laterally with one another by ribs 22, shaped on the bottom plate 20, which are fixed with respect to one another by transverse ribs 23 in the middle.

[0022] The bearing bodies 17 are shaped in cross section such that they have a place in the roof channel below the cover strip, and can be elastically connected to the strip edges 25 and 26 of the roof channels, which have been flanged all around toward the inside (shown in FIGS. 3-5). For this purpose, hooks 24, which project to the outside, are shaped on the upper edge of a side wall 18, for engaging in the strip edge 25, and on the upper edge of the side wall 19, lying opposite, catch hooks 27 are also shaped in a region slit on both sides, these springing inwards while being inserted into part 3, and then again catching above the strip edge 26. The other areas of the side wall 19 are dimensioned such that during the latching of the hooks 27 they bear against the cover strip 3 from below.

[0023] The two bearing shells 7 are found on the upper edge of the side wall 18 on the sides of the bearing bodies 1 facing one another, whereas the spring ribs 13 on the bearing body 17 are shaped such that the front sides 14 with the catch edges 15, bent outwards, are directed toward the catch pins 11. The distance between the bearing shell 7 and the spring rib 13 is dimensioned such that the U-shaped element 5 can pivot in between. The inside

transverse wall 29 between the side walls 18 and 19 has a support edge 30 for support of the hinged cover 2 in the closed position.

[0024] Mounting of the covering device is easy. The insertion part 1 is introduced, from below, with its catching hooks 24, behind the strip edge 25 of the cover strip 3, at an incline, and then pressed upwards with the catch hooks 27 until they latch in the opposite strip edge 26. One has merely to ensure that the hinged cover 2, previously pressed into the bearing shells 7, is oriented centrally in the mounting recess 4 of the cover strip 3.